

Appl. No. 09/885,050
Amdt. dated July 23, 2003
Reply to Office Action of January 24, 2003

Amendments to th Specification:

Please replace paragraph 1 with the following amended paragraph:

[0001] The invention relates to a portable point-of-sale transaction method and system allowing information from a cheque check to be scanned for reporting to a cheque check clearing service.

Please replace paragraph 2 with the following amended paragraph:

[0002] In many countries, including the United States, the financial services industry is composed of many different providers including banks, trust companies and other financial institutions. As a result of the large number of institutions, many of them are incapable of efficiently managing electronic transactions between different institutions. For example, a consumer having an account and debit card with one institution would often be unable to effect an electronic transaction with a merchant having an account with a different institution. This inability is a result of the different institutions not having compatible transaction management systems allowing inter-institution account-account transactions. Accordingly, as a result of this lack of compatibility of transaction management systems, there is a relatively low use of debit cards for transactions in the United States with consumers instead relying on traditional payment means including personal cheques checks. In other jurisdictions, including Canada, the use of personal cheques checks has dropped considerably for certain types of transactions but remains heavily used for other types of transactions.

Please replace paragraph 3 with the following amended paragraph:

[0003] The main concerns with the use of personal cheques checks is the ability of the payee, usually a merchant, to verify that a payor's account has the promised funds and ultimately that the cheque check will clear. Accordingly, most stores or merchants before accepting a cheque check will require additional security information about the customer. For example, some stores require that a customer be pre-approved to use cheques checks and issue store-specific chequing checking card as security for the cheque check being written. Other stores may require a driver's license and/or credit card information and hope for the best.

Please replace paragraph 4 with the following amended paragraph:

[0004] As a result of this inadequate security, cheque check clearing systems or services have been implemented to provide merchant's with different levels of service for clearing cheques checks. A merchant in subscribing to a cheque check clearing service may be able select different levels of cheque check clearing security and pay different fees for that level of service.

Please replace paragraph 5 with the following amended paragraph:

[0005] Basic or first level of cheque check authorization uses the person's driver's license and/or credit card number to investigate if the consumer has a history of bad cheques checks as may have been reported to credit bureaus. This first level of service would not utilize the specific information on the cheque check including the account number and bank identifying information (routing code).

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Please replace paragraph 6 with the following amended paragraph:

[0006] Second level cheque check authorization verifies that the consumer's account exists and is not closed. At this level of security the cheque check routing code is read from the cheque check and is sent to the cheque check clearing service which will use this information to request the account information from the consumer's financial institution which is then reported back to the merchant.

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cont

Please replace paragraph 7 with the following amended paragraph:-

[0007] Third level cheque check authorization is a cheque check guarantee whereby the funds in the specific account are verified and held for payment of the cheque check. As with the second level the cheque check routing code is read as well as the transaction amount entered and sent to the cheque check clearing service which uses this information to place a hold on an account for a specific amount until the cheque check is received.

Please replace paragraph 8 with the following amended paragraph:-

[0008] As indicated above, cheques checks have their account information and bank routing codes encoded in a string at the bottom of the cheque check. This string is encoded using a special magnetic ink with a font that is both optically (Optical Character Recognition - OCR) and magnetically (Magnetic Ink Character Recognition - MICR) readable. However, in order to provide high speed processing capabilities, the typical method of processing cheques checks involves using a magnetic head to read the information. For magnetic reading to occur, the magnetic head must pass over the encoded string at a constant speed -- unlike a magnetic stripe where the information is encoded with a modulation scheme that allows the information to be read at several varying speeds. To satisfy the constant speed requirement, magnetic head cheque check readers incorporate a motor to move either the cheque check (most typical) or the head at a constant rate. These motor driven readers tend to be very bulky and power hungry making them unsuitable for portable applications. Some of these merchants have used the mechanical readers for obtaining the relevant cheque check information.

Please replace paragraph 9 with the following amended paragraph:-

[0009] The American Banking Association sets as its standard the E13-B font for cheques checks. As the E13-B font is also optically readable, it is possible to obtain the cheque check information with an optical scanner.

Please replace paragraph 10 with the following amended paragraph:-

[0010] Optical scanning is presently in use with a product called IRISPen (I.R.I.S., Inc., Boca Raton, Florida) (<http://www.scaniris.com/US/Products/irispen.html>) which uses an externally connected computer to process the scanned image into characters. However, while this system allows cheque check information to be effectively gathered, the system is not portable.

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Please replace paragraph 11 with the following amended paragraph:

[0011] Accordingly, there has been a need for a portable ~~cheque check~~ scanning device which incorporates font recognition into a portable device particularly for use with a wireless point-of-sale (WPOS) system.

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Please replace paragraph 12 with the following amended paragraph:

[0012] While OCR scanning does not verify the presence of the magnetic ink, the recent availability of magnetic ink toner cartridges for laser printers for companies desiring to automate their ~~cheque check~~ printing lessens the value of the additional security measure of magnetic ink as anyone having a magnetic ink toner cartridge and ~~cheque check~~ software could easily print a phony ~~cheque check~~. As a result, the only effective method of verifying the validity of a ~~cheque check~~ is through on-line authorization.

Please replace paragraph 13 with the following amended paragraph:

[0013] Since the ~~cheque check~~ string length is typically over 20 characters, it is difficult to manually enter the characters without errors. Accordingly, there is a need for a system which permits rapid and accurate entry of the character string.

Please replace paragraph 14 with the following amended paragraph:

[0014] Further, and for higher levels of ~~cheque check~~ security, there is also a need for a system enabling rapid entry of other information including a person's name, address and phone number using OCR technology. Alternatively, or in conjunction with such a system there is a need for a POST enabling the user information within a magnetic stripe of a customer's bank card, credit card or driver's license to be utilized for ~~cheque check~~ security processing. Still further, and as an alternative, or in conjunction with such a system, there is also a need for a POST enabling the user information within a bar code of a customer's store card or driver's license to be utilized for ~~cheque check~~ security processing or for invoice information tracking. Still further, there is a need for a system in which a person's signature or other handwriting on a ~~cheque check~~ can be obtained for security purposes.

Please replace paragraph 17 with the following amended paragraph:

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[0017] In a further embodiment, the scanned information is the routing code from a ~~cheque check~~ and the processor converts a digital image of the routing code to a formatted string. Still further, in another embodiment, the processor compares the formatted string to a library of jurisdictional codes to determine if the formatted string corresponds to a jurisdictional code.

Please replace paragraph 20 with the following amended paragraph:

[0020] In another aspect of the invention, a method of obtaining approval for a ~~cheque check~~ transaction between a payor and a payee is provided comprising the steps of:

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- a) scanning ~~cheque check~~ information from a ~~cheque check~~ with a portable scanner;
- b) reporting the scanned ~~cheque check~~ information to a point-of-sale terminal (POST);

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- c) establishing an operative connection between the POST and a cheque check clearing service;
 - d) transferring the scanned cheque check information to the cheque check clearing service; and,
 - e) receiving transaction approval or denial at the POST from the cheque check clearing service.

Please replace paragraph 22 with the following amended paragraph:

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[0022] In a further embodiment, the invention also provides that after step a) the processor compares a scanned code with a library of jurisdictional codes to determine if the formatted string corresponds to a jurisdictional code and/or the step of a payee entering the amount of the transaction into the POST or scanner for formatting and reporting to the cheque check clearing service.

Please replace paragraph 23 with the following amended paragraph:

[0023] In a more specific embodiment, the invention provides a method of obtaining approval for a cheque check transaction between a payor and a payee comprising the steps of:

- scanning cheque check information from a cheque check with a portable scanner wherein the cheque check information includes any one of or a combination of text, code or handwriting;
- entering a transaction amount on the POST;
- reporting the scanned cheque check information to a point-of-sale terminal (POST);
- establishing an operative connection between the POST and a cheque check clearing service;
- transferring the scanned cheque check information and the transaction amount to the cheque check clearing service; and,
- receiving transaction approval or denial at the POST from the cheque check clearing service.

Please replace paragraph 24 with the following amended paragraph:

[0024] These and other features of the invention are described with reference to the drawings wherein:

Figure 1 is a schematic overview of a cheque check verification system in accordance with the invention;

Figure 2 is a schematic overview of a method of cheque check verification on a point-of-sale terminal in accordance with the invention;

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Figure 3 is a schematic overview of a method of cheque check verification on a scanner in accordance with the invention; and,

Figure 4 is a schematic overview of a cheque check scanner in accordance with the invention.

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Cont

Please replace paragraph 25 with the following amended paragraph:

[0025] In accordance with the invention and with reference to the figures, a portable cheque check authorization system for field/mobile purchases is provided. More specifically, the invention provides a handheld device capable of reading cheque check information such as a cheque check routing code and transferring the code information to a point of sale terminal whereupon the POS application software will contact a cheque check processing/authorization service to obtain purchase approval of the cheque check. The system may be used for collecting other information including text and/or handwriting.

Please replace paragraph 26 with the following amended paragraph:-

[0026] With reference to Figure 1, the system 10 includes an OCR pen 12 in operative communication with a point-of-sale terminal (POST) 14. The POST 14 is preferably a wireless POST having cell phone 16 and card-swipe functionality 18 as described in applicant's co-pending application PCT CA 00/01370. The pen 12 may be wired to the POST 14 or may communicate via a wireless connection such as infra-red or Bluetooth. The POST 14 can connect via a wired or wireless network to either a cheque check clearing service 20 or credit card clearing service 22 for obtaining approval for a transaction. With respect to the cheque check clearing service 20, the customer's bank 24 may be contacted, depending on the cheque check processing service level desired, to verify the existence of an account 26 and/or to place a hold on specific funds in that account and, hence, deliver approval information back to the POST 14.

Please replace paragraph 27 with the following amended paragraph:-

[0027] With reference to Figure 2, at the start of a transaction, a merchant or customer desiring to use a POST having the cheque check scanning capabilities will be prompted to select a payment mode (box 50), for example, credit, debit or cheque check. If cheque check is selected, the POST prompts the merchant to activate the scanner to scan the cheque check information (box 52) whereupon the POST enters a mode awaiting the receipt of cheque check information (box 56), such as routing information. Alternatively, if debit or credit is selected, the merchant is prompted to swipe the customer's card (box 54).

Please replace paragraph 28 with the following amended paragraph:-

[0028] If the cheque check information is received, the POST 14 may optionally prompt the merchant to enter the transaction amount (box 58) depending on the level of cheque check processing service required or subscribed to by the merchant. If all necessary information has been obtained, the POST 14 parses the required information (box 60) including the routing code, merchant number and the amount (if required) and activates the data communications link (box 62) to connect the POST to the cheque check clearing service 20. If an appropriate connection with the cheque check clearing service 20 is established, the POST transmits the parsed information (box 64) to the cheque check clearing service for authorization.

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Please replace paragraph 29 with the following amended paragraph:

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[0029] The cheque check clearing service 20 determines if transaction approval is to be granted and delivers the approval/denial information to the POST. If the POST receives authorization (box 66), the POST completes the transaction (box 68) and may optionally print a receipt (box 70) for a customer and/or merchant record of the transaction.

Please replace paragraph 32 with the following amended paragraph:

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[0032] When activated, the scanner may prompt the merchant to scan the cheque check (box 84) whereby the scanner reads the desired character information from the cheque check (box 86). The reader 12a is placed over cheque check information such as the routing code of a cheque check and/or other textual/barcode information and captures a digital image of the information (box 86). The processor 12b converts the digital image of the information into a character string (if scanned information is text) using known optical character recognition methodology.

Please replace paragraph 33 with the following amended paragraph:

[0033] In various embodiments of the invention depending on the type of information being scanned, the processor 12b may perform different information processing functions. For example, the character string may be verified against specific string formats for accuracy (box 88). Accuracy verification may include a comparison of the scanned character string against a database of acceptable formats such as those formats assigned to a specific financial jurisdiction (box 90). If the accuracy of the character string is confirmed, the character string is sent to the POST 14 via the interface 12d (box 92). Alternatively, if the format of the character string does not conform to the expected string formats, the scanner may notify the merchant to rescan the cheque check information. Alternatively, if the jurisdiction code fails to match to a specific jurisdiction, the scanner may notify the merchant that the cheque check is a non-local cheque check (box 94) and suggest that the merchant manually or visually inspect the cheque check to determine if there are any signs that the cheque check may have been altered or otherwise tampered with before allowing the information to be transferred to the POST. In the event that the jurisdiction code does not match, the merchant may permit the information to be transferred in case it is a legitimate out-of-state cheque check, however, the merchant may request further information from the customer.

Please replace paragraph 35 with the following amended paragraph:

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[0035] In a further embodiment, the scanner may be used to obtain a digital image of a person's signature. In this embodiment, the digital image of the signature may be formatted for sending to the cheque check clearing service which would compare the scanned signature with a signature on file.

Please replace the abstract with the following amended abstract:

Abstract

The invention relates to a portable point-of-sale transaction method and system allowing information from a cheque check to be scanned for reporting to a cheque check clearing service. In particular, the system includes a portable scanner for scanning information relating to a transaction, a portable point-of-sale terminal (POST) for receiving the information, for

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reporting information to a transaction approval service and for receiving transaction approval or denial from the transaction approval service.

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Concluded